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Notes:

1. Untranslatable words are replaced with asterisks (* * *).
2. Texts in the figures are not translated and shown as it is.

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CLAIM + DETAILED DESCRIPTION

[Claim(s)]

[Claim 1]It is a bag of popcorn for microwave cooking, (a) A flexible bag which consists of one folded-up sheet structure, Said bag includes the 1st, the 2nd panel, and a bottom Gasset field here, (i) said 1st panel has the side edge which the 1st and the 2nd counter and edge and the 1st, and the 2nd counter -- (ii), [said bottom GASSETTO panel] it has the side edge which the 1st and the 2nd counter and edge and the 1st, and the 2nd counter -- (iii), [said bottom Gasset field] It is arranged along with said 1st [the] and edge of said 1st panel and said 2nd panel, and, [between said 1st panel and said 2nd panel] It has Gasset's fold toward an inner side, (b) Microwave interaction structure arranged on said 1st panel, (c) Said 2nd [the] and edge of said 1st panel and said 2nd panel meet in part at least, and paste up said 1st panel on said 2nd panel so that release is possible, (d), [said 1st panel] Said 2nd panel is pasted along with said 1st side edge and said 2nd side edge part, (e) Said bottom Gasset extends alternatively and a bottom for supporting said back in the erection state is formed, A popcorn bag, wherein it used said bottom as a bottom in this erection state and said 1st [the] and the 2nd panel are suitable up.

[Claim 2]The popcorn bag according to claim 1 consisting of a folded-up single sheet structure where said flexible bag has an outside layer and an inner side layer, and said microwave interaction structure has been arranged between this outside layer and an inner side layer.

[Claim 3]Claim 1, wherein a charge thing of popcorn before carrying out popping is stored, or a popcorn bag given in either of Claim 2.

[Claim 4]The popcorn bag according to any one of claims 1 to 3 having a pocket in which the 2nd and edge of the 2nd and edge of said 1st panel, and said 2nd panel paste up with a fin seal mutually, and this adhesion forms an exhaust air hole in the center, and which has not been pasted up.

[Claim 5]said bottom Gasset has the 1st and 2nd wall surface portion that combined each other in accordance with a central folding line -- (i) -- in the state where it was folded up, [said bottom Gasset] (A), [said bottom Gasset's 1st wall surface portion] It is fixed to said 1st panel along with a corner seal in which the 1st and the 2nd counter, (B) The popcorn bag according to claim 4, wherein said bottom Gasset's 2nd wall surface portion is fixed to said 2nd panel along with a corner seal in which the 3rd and the 4th counter.

[Claim 6]said 1st panel and the 2nd panel -- this -- said 2nd [the] of the 1st and the 2nd panel -- and the popcorn bag according to claim 5 pasting up mutually [near the edge] with the 5th which counters mutually, and the 6th corner seal.

[Claim 7]The popcorn bag according to claim 6 characterized by having a tuck seal into neighborhood portions of the central part said 2nd panel's, and said bottom Gasset's 2nd panel field when it is in the state where said popcorn bag was folded up.

[Claim 8]It has the 1st which has a field which pastes up between said 1st [the] and the 2nd panel, and is located on said microwave interaction structure, and a parallel linear seal in which the 2nd interval opened, (i) The popcorn bag according to claim 6, wherein said linear seal is stuck in the perpendicular longwise direction to said 2nd end edge it has on said 1st [the] and the 2nd panel.

[Claim 9]The popcorn bag according to claim 8, wherein the said 1st and 2nd linear seal includes a field which pastes up said bottom Gasset's 1st wall surface portion to said 1st panel, respectively.

[Claim 10]The popcorn bag according to claim 9, wherein the said 1st and 2nd linear seal includes a field which pastes up said bottom Gasset's 2nd wall surface portion to said 2nd panel, respectively.

[Claim 11]The popcorn bag according to claim 10 having a charge thing of popcorn before popping which is in said flexible bag, and is between the said 1st and 2nd linear seal, and is arranged on said microwave interaction structure.

[Claim 12]The popcorn bag according to claim 6 having pasted up mutually the 1st [of said bottom Gasset], and 2nd wall surface portion along with side edge which counters.

[Claim 13]The popcorn bag according to claim 6, wherein a range of a ratio of said 1st [the], the length of the 2nd and edge which the 2nd panel has, and the length of the said 1st and 1st side edge that the 2nd panel has is 1:1 to 2:1.

[Claim 14]A method which is the method of building popcorn by which popping was carried out, and is characterized by carrying out popping of the popcorn charge thing before popping is carried out using a bag in which the expansion according to claim 1 is possible.

[Detailed Description of the Invention]

[0001]

Field this invention of an invention relates to the package for microwave cooking. It is related with the goods which put into inside the foodstuffs which can be especially cooked with a microwave oven. Having especially indicated as a desirable embodiment is related with the package for carrying out popping of the popcorn which can be cooked with a microwave oven. As for structure, it is desirable to have a broad opening in combination with erection shape. It is provided about the assembly method and directions for use.

[0002]

the background of an invention -- the foodstuffs for a broad kind of microwave ovens are known now. It is the structure of the product used in order to carry out popping of the popcorn for [one] microwave ovens of the important thing concerning this description. Generally, a product is a package which has a portion loaded with a popcorn charge thing. The popcorn charge thing before carrying out popping of the package is stored, during use, it is set to a microwave oven and microwave is hit. Popping of the popcorn is carried out by microwave being hit, and a package expands.

[0003]

The package is the soft bag or small bag which expands in process of popping. The expanding bag is indicated to U.S. Pat. No. 5,650,084, No. 5,302,790, No. 5,195,829, No. 5,081,330, No. 5,044,777, No. 4,691,374, and No. 4,548,826, for example.

These indications are included in an application concerned as reference.

The above-mentioned patent is developed with the golden ballet microwave foods in Minnesota EDINA.

Today's goods are also developed in the company.

[0004]

The feature of the package of the popcorn for microwave ovens is clearer than the description of U.S. Pat. No. 5,044,777, for example. First, a package has a pair of Gasset who counters, and divides the inside of a package into the 1st tube and 2nd tube. When the package is loaded with a content, a popcorn charge thing is arranged at one side of the two tubes, and it is firmly maintained before popping. This is indicated to drawing 3 of U.S. Pat. No. 5,044,777, for example.

[0005]

The popcorn charge thing before carrying out popping is stored in the center of a structure (into one third of portions [Typically] of a center). In the case of many products, in the state of storage, the package has structure folded up by three. These are indicated to explanation of the Drawings of U.S. Pat. No. 4,044,777, No. 5,195,829, and No. 5,650,084, and an invention. It is illustrated in drawing 5 of U.S. Pat. No. 4,548,826, and drawing 3 A of U.S. Pat. No. 4,691,374 and drawing 14.

[0006]

The structure of a bag given in the above-mentioned cited reference which has the feature in which a bag carries out an opening by carrying out popping is not a become [independent] type thing. For this reason, it is preferred to move popcorn from a bag to a ball or other containers after popping with this structure. It is because the bag will be the long and slender shape where an opening is narrow once it will expand by carrying out popping of the popcorn.

[0007]

According to outline this invention of an invention, the structure of the bag of the popcorn for microwave ovens is provided. The bag of the popcorn for microwave ovens is made of a soft bag which has one folded-up sheet structure. Here, it says that it is not the structure which "one folded-up sheet structure" is the bag in which the soft single member was folded up, and consists of separate parts. "A single member" means having the lamination structure which piled up one or two or more layers. It is preferred to have as a structure, two or more layers, i.e., multilayer structure.

[0008]

There are the 1st panel, the 2nd panel, and bottom Gasset in the bag for popcorn. When bottom Gasset folds up, he is allotted so that it may come inside two wall surfaces attached between the 1st and the 2nd panel. Bottom Gasset's extension will upright a bag in the state where the 1st panel and the 2nd panel attach and come out from the bottom formed at the end at which bottom Gasset of two wall surfaces, the 1st panel, and the 2nd panel were chosen. The interaction structure of microwave is preferably arranged on the 1st panel. In a bag, the popcorn charge thing is located on the interaction structure of microwave.

[0009]

when carrying out popping of the popcorn, bottom Gasset extends by steamy pressure -- (-- in two wall surfaces, the mouth of difference) and a bag opens. It stands up, after a popping process is completed, and

the upper end has carried out the opening so that popcorn can be taken out.

[0010]

The 1st panel and the 2nd panel are mutual, and the structure where edge and side edge become a right angle, respectively is desirable. Along with the 1st end edge, each panel pastes bottom Gasset. Along with the 2nd end edge, it pastes up mutually and two panels form the fin seal (fin seal). Preferably, the "pocket field" which has not been pasted up is included in a fin seal. This pocket field forms an exhaust air hole under the pressure of steam or hot air in a popping process. This kind of desirable exhaust air pocket is shown in Drawings.

[0011]

Along with the portion of side edge, the 1st panel and the 2nd panel of each other are pasted up directly. Along with side edge other than the 1st and 2nd side edge, bottom Gasset who has the 1st and the 2nd panel among both panels is pasted. In a desirable structure, bottom Gasset itself is pasted up along with bottom Gasset's side edge in this portion. As a result, the become [independent] type bottom which serves as bottom Gasset from the 1st end edge (or lower end part) of the 1st and 2nd panels is formed.

[0012]

The pattern of desirable adhesion material is provided. This pattern uses various internal seals by the method of acquiring the target effect structurally. Since the position of a popcorn charge thing is fixed, [an adhesive material] [in the space provided near the microwave interaction structure] When it is used for the tuck seal holding the state where it was sealed or popping is started, it is used as a seal which holds four corners to the bottom. The desirable shape of these seals is shown in the figure.

[0013]

The "corner seal" in an application concerned refers to the seal opened on the diagonal line which connects the corner across which it faced between two neighborhoods which intersect perpendicularly like the side edge seal which intersects perpendicularly with the side edge which intersects perpendicularly with the bottom, or an end edge seal, for example.

[0014]

As the background of the popcorn product above-mentioned invention for microwave cooking which has the desirable feature of an embodiment of the invention some described, have stored a success as goods by using the structure concerning the enumerated patent, but. It is required with the product for microwave cooking, and there is the feature which is not satisfied immediately in these characteristic designs.

[0015]

It is the feature of having the structure where it has the structure where it does not fall also after the upper part has carried out the opening after popping with the microwave oven especially, and an opening is opened greatly widely, and itself plays the role of a "ball."

[0016]

The popcorn before popping is stored in inside and popping of the bag which has a big opening is carried out with a microwave oven. It is indicated by U.S. Pat. No. 5,097,107 and No. 5,008,024 as an example. The applicant of an application concerned owns these patents.

[0017]

A hard paperboard or board is used for the structure indicated in U.S. Pat. No. 5,097,107 or No. 5,008,024. That is, it comprises paperboard material outside "whose bucket" is comparatively hard and which is

inflexible, and is kept with the bucket shape or bucket structure where it became independent, before use. Therefore, even if it has the structure [pile / structure], structure needs to become large relatively and it is necessary to also take the size of a package, the space of a shelf, and a large storage space of a kitchen.

[0018]

By providing the structure using a flexible package material, even if this invention has a popcorn charge thing before popping, it can be folded up and realizes a small package relatively. When this package is put into a microwave oven and microwave is hit, expand simply, and popping of the popcorn is carried out, and, moreover, [that package] It has the feature that it can suit immediately so that popcorn can be taken out easily, it may have a comparatively large opening in the upper part and an erection state can be held without a support. Since it has a flexible structure, if it heats and expands with a microwave oven, the shape of the ball which is easy to take out popcorn will be made.

[0019]

In suitable embodiment drawing 1, the reference number 1 shows the package of the popcorn for microwave ovens concerning this invention. In drawing 1, the popcorn 2 by which popping was carried out is stored in inside, and an opening opens the package 1 of popcorn, and holding the erection state without a support is shown. An erection state can be held, and it holds according to people and a certain additional structure, or it becomes unnecessary to support the package 1 by this "self-maintenance", as shown in drawing 1.

[0020]

The popcorn 2 by which popping was carried out is contained in inside, and the package 1 has the side wall structure 7 and the bottom structure 8 (drawing 2) as shown in drawing 1. The packaging structure 1 has the side wall structure 7 and the bottom structure 8, folds up the sheet, the blank structure, or the multilayered sheet of a monolayer, and is formed so that the following explanation may show. This is clearer from drawing 6 than the explanation relevant to drawing 8. In a work example, the side wall structure 7 and the bottom structure 8 are mutually indispensable, and the wall surface portion at the time of being folded up by one is formed.

[0021]

The side wall structure 7 is allotted in parallel mutually, and is provided with the 1st and 2nd panels 12 and 13, i.e., wall surface portions, as shown in drawing 1.

[0022]

The bottom structure 8 is provided with the bottom gusset member 16 allotted among the bottom portions 17 and 18 of the wall surface panels 12 and 13 as it is shown in drawing 2. The panels 12 and 13 shown in drawing 1 and drawing 2 have the 1st, the 2nd side edge 12a, 12b, 13a, and 13b, and the 1st and 2nd end edge 12c, 12d, 13c, and 13d, respectively.

[0023]

The package 1 contains after popping the upper part opening 19 and the side seals 20 and 21 which counter which are shown in drawing 1. The side seals 20 and 21 contain the upper part seals 23 and 24 and the bottom seals 27 and 28 of drawing 1, respectively. In the upper part seal portions 23 and 24, the seal of the panel 12 is directly carried out to the panel 13 (the seal of the side edge 12a is directly carried out to 13a, and the seal of the 12b is directly carried out to 13b). On the other hand, in the bottom seal parts 27 and 28, bottom Gasset 16 (drawing 2) has pasted up among the panels 12 and 13 as explained below.

[0024]

The package 1 has the closing knob (closure tab) structure 31 as shown in drawing 1. The closing knob 31 of illustration consists of a piece of a polymer board which has the adhesives which shift if pressure is perceived on the surface of one of these. That is, it consists of a piece of a tape. For this reason, the knob 31 can be used as a tape for closing the package 1 containing popcorn again, if it finishes eating the popcorn 2.

[0025]

Therefore, for example, if some popcorn 2 is eaten, the package 1 can be closed by putting mutually the upper part and the edge 12d and 13d of the panels 12 and 13 together, and folding [roundness / slight] up in **. The closing knob stopped by the panel 13 before folding [roundness / slight] up in ** is removed from the panel 13, It is stuck on the way close to either the edge above the package 1 which were folded [roundness / slight] up in **, or the panels 12 and 13, and the state where the portion folded [roundness / slight] up in ** closed is maintained. Another structure is as being shown in drawing 10, and in order to maintain the state where the bag was closed, the notch or the slit 331 which restrains mutually and suits is provided (in other forms, the structure of drawing 10 is similar with the form shown by drawing 9 from drawing 1). Aeration is assisted during popping and the slit 331 assists an opening after popping.

[0026]

Next, drawing 3 is referred to. Before the package 1 carries out popping of drawing 3, it expresses the state where it was placed by the microwave oven. In drawing 3, the 1st and 2nd side panel 12 and 13 is illustrated. In drawing 7, bottom Gasset is in the state where it was crushed completely. The end edge 12d and 13d of the side pieces 12 and 13 is mutually pasted up as shown in drawing 3. When the structure of a bag of having the shape "having been crushed" here is referred to, as for drawing 3 Gasset 16 in the panels 12 and 13 in the state where it was crushed completely mutually is indicated to be, and it of drawing 7, it turns out that shape is similar. Generally the state which shows in drawing 1 and drawing 2 is called "expansion." This is the appearance in the state where bottom Gasset expanded, and the panels 12 and 13 are pushed with the popcorn by which popping was carried out, and are in the state where it separated mutually. In some work examples, in drawing 1 or drawing 2, the opening of the package in "expansion" state is carried out, and drawing 4 and drawing 5 show the state where it closed.

[0027]

The package 1 has the microwave interaction structure 40 shown in drawing 7. In an application concerned, microwave interaction structure is dealt with as what is located "on" a panel. namely, the inside of two flank parts -- on the other hand -- or microwave interaction structure is located in one top of the side panels 12 and 13. With panel a "top", there may be a case inside a bag, a case of the outside of a bag, and a case between the layers of a bag. As for the microwave interaction structure 40, it is desirable to be located between the layers of a bag so that it may state below.

[0028]

Microwave interaction material is provided with the polyester (40a of drawing 7) by which metallic coating was carried out, . Vacuum meta-rising of this was carried out with the aluminum (40b of drawing 7) which has the concentration of 0.25**0.05 by measurement by the Tobias (Tobias) densimeter. For example, the polyester film (Hoechst Celanese) (typically 48 gauges) of Hoechst SERANEZE is mentioned. The reflex technology shrine which considers it as the company which can provide this material, and is located in MA, 01845, and North Andover is mentioned. Such a structure is broadly used as a receptacle of the popcorn for

microwave ovens, for example, is indicated also to U.S. Pat. No. 5,650,084 or No. 5,044,777. In the structure 1 of drawing 7, [the microwave interaction structure 40] The case where the polyester film 40a is turned outside and aluminum coating 40b is performed, and the polyester film 40a may be turned inside, and aluminum coating 40b may be performed (there is a method of facing).

[0029]

Before popping is started, microwave interaction structure is arranged so that the field 41 shown in drawing 3 and drawing 7 which have covered popcorn may be contacted and heat conduction may arise, and, on it, the popcorn charge thing 43 before popping is arranged. That is, the microwave interaction structure 40 touches in the state in which the popcorn charge thing 43 before popping is carried out and heat conduction are possible so that the heat produced according to the microwave interaction structure 40 may be told during popping to the popcorn charge thing 43 before direct popping. It is arranging the popcorn 43 on the interaction structure of having the one layer 47 which forms the package or the bag 1 of drawing 7, and this becomes possible.

[0030]

The microwave interaction structure 40 is allotted on the panel 13, and even if there are few fields of the panel 13, it occupies three (one third of centers is the optimal) in about 1/desirably 40% from about 20 typically about 20%. As arrangement of microwave interaction material, the center region 57 shown in drawing 3 is desirable.

[0031]

As for the microwave interaction structure 40, it is desirable to be attached between the layer inside material and an outside layer. Generally the package 1 consists of two layers, and the microwave interaction structure 40 is attached between two flexible layers called the layer 47 inside drawing 7, and the outside layer 48.

[0032]

The material of the outside layer 48 has the bleached 21-pound desirable kraft (a pound/** (ream)). But the sheet of the paper which forms the inside layer 47 has the desirable paper of 23-pound oil-repellent oily skin. It has oil-repellent oily skin because both papers carry out fluoride combination processing. Typically, it is used sake [fluoridation hydrocarbon FC-807 / flat knot]. This material is used for the bag of the popcorn for microwave ovens from the former.

[0033]

. [between the layers of paper] Generally adhesives like HB forward-looking infrared WC-3460ZZ which the HB forward-looking infrared company in DURACET12 put on the market at the Franklin international shrine which has the adhesives for lamination to apply to Ohio Columbus, or St. Paul, Minnesota, has put on the market are used. Other adhesives may be used as adhesives for lamination.

[0034]

The structure shown in drawing 3 is before use, was packed for storage, and has the three fold structure folded up along with the polygonal lines 58 and 59.

Popcorn is stored between two cuff portions.

A three-fold structure is sealed after a product by moisture absorption prevention material like the polypropylene lap for 2 **** of 110 to 140 gauges, or the lap for moisture absorption prevention. When using it, this lap is removed, and as shown in drawing 3, after three fold has opened, it is put into it by the

microwave oven. It is shown that drawing 9 is wrapped in the lap that it is bent in the form where the end 401 of three fold structure overlaps with the principal part 402, and should consider as a smaller package. If each figure is seen, popcorn cannot be stored in the end field 401 bent so that clearly.

[0035]

After carrying out popping with a microwave oven, before being in the state where an opening carries out an opening completely and is eaten, it becomes structure as shown in drawing 4 and 5. Popping of the popcorn is carried out, the sides 12 and 13 leave drawing 4 and 5 mutually, they spread, and signs that bottom Gasset 16 expanded are shown. In the exhaust air pore 68, the exhaust air hole of steam for missing the steam pressure of the inside generated during popping is formed among the panels 12 and 13 along with the edge 12d and 13d. The exhaust air pore 68 plays during popping the role which discharges heat and steam from the inside 69 of the package 1.

[0036]

Suitable shape over the structure of the package 1 shown in 5 from drawing 1 is realized by adhesives suitable for applying on a flexible structure, and the suitable method of folding up. Suppose that drawing 6 is referred to about this.

[0037]

The package blank 100 is illustrated by drawing 6. It is used for folding up the package blank 100 in the package 1 of the shape shown in 5 and 7 from drawing 1.

[0038]

If drawing 6 is referred to, the package blank 100 will consist of the sheet 103 of two layers. In a rectangle, the 2nd faces the side edge 104 and 105 which the 1st and the 2nd face, and the 1st, and the two-layer sheet 103 consists of the edge 106 and 107. The surface 110 consists of the inner surface 90 of the package 1 shown in drawing 1 and drawing 7 outside the sheet 103 shown in drawing 4. The opposite side turns into a side shown in drawing 6 in the sheet 103 from the surface 91 outside the package 4 of drawing 7.

[0039]

When drawing 6 is referred to, the sheet 103 has the panel fields 115, 116, 117, 118, 119, and 120. The panels 115-120 are folded up in the direction which approaches one row mutually in the turn which was able to be decided. If folded up, the fields 117 and 118 will serve as double Gasset 16 of drawing 7. If folded up, as shown below, in the fields 120 and 119, the fields 115 and 116 will be piled up, will be put together, and will form the panels 13 and 12 in which the 2nd faced the 1st. And the edge 106 and 107 forms the end 129 of drawing 7, and the side edge 104 and 105 forms the side seals 21 and 20 of drawing 1.

[0040]

The suitable way of folding up of the sheet 103 for building the package 1 is shown below. The field 117 is turned up by the field 116 in accordance with the folding line 130 of drawing 7. As a result, the bonded part 131 is put on the bonded part 132, and puts the bonded part 133 on the bonded part 134. The bonded part 135 of side edge piles up the bonded part 136 and the bonded part 137 with 138. The panel 118 is folded up by the back in accordance with the folding line 140. Thereby, the field of the sheet 103 in alignment with the folding line 140 forms the inside edge 141 of Gasset 16 of drawing 7 (generally, heat is applied to the bonded part which piled up and was put together, and it is pasted).

[0041]

The field 119 is turned up by the field 118 in accordance with the folding line 151. Thereby, the bonded part 152 is put on the bonded part 153, and the bonded part 154 is put on the bonded part 155. The side edge bonded part 156 is put on the bonded part 157, and the side edge bonded part 158 is put on the bonded part 159. The side edge bonded part 160 is put on the side edge bonded part 161, and the side edge bonded part 162 is put on the side edge bonded part 163. In addition, and the end edge bonded part 166 and the corner bonded part 170 are put on the corner bonded part 171, and the edge bonded part 165 puts the corner bonded part 172 on the corner bonded part 173. The adhesion part which piled up and was put together by being heated along with the portion mentioned above is pasted up in each superposition portion of the sheet 103.

[0042]

A tuck arises between the field 119 and the field 118 because the bonded parts 180 and 181 pile up and are put together in addition to the bonded part mentioned above. The field turned up among the bonded parts 183 and 184 has the feature shown below.

[0043]

The desirable shape of a bonded part, a size, and directions are illustrated by drawing 6. These features are clearer than the following.

[0044]

First, the blank 100 to which it pointed with the reference numbers 135 and 137 of drawing 6 is referred to. The portion shown by the double line has a bonded part in both the back (for example, bottom portion shown in drawing 6) of the blank 100, and upper surface side 103. When it pastes up mutually with the side edge which forms Gasset 16 and a lower bonded part expands, it forms the bottom shown in drawing 2 or drawing 5.

[0045]

Next, the slanting bonded parts 131 and 132 are referred to.

[0046]

If the bonded parts 131 and 132 are turned up and paste up, the "corner" seal of the done package 1 will be formed. Between Gasset's 16 panel 117, and the field 116 of a side panel, a corner seal is located along the corner between both. A corner seal is formed because the bonded parts 133 and 134 turn up and paste up the opposite side similarly. The corner seal formed of the bonded parts 131 and 132 between the panel 116 and Gasset 117, and 133 and 134 has very many functions. For example, thereby, the state where the package was folded up is maintained before popping. As a result, in the package of popcorn, the portion between the surface panels 116 does not spread simply with Gasset 117. A popcorn charge thing focuses on microwave interaction structure during popping, and this as used in the field in which the popcorn in early stages of popping was stored means emitting from this position. And with this corner seal, when the package 1 expands, bottom Gasset 8 can do an opening to desirable shape.

[0047]

One more set of corner seals are located between the Gasset field 118 and the panel 119. It is done by the bonded parts 152 and 153 being turned up as for these corner seals, and the bonded parts 154 and 155 being turned up as for the corner seal by the side of opposite, and pasting up.

[0048]

By superposition of the bonded part 131, 132; 133, 134:152 and 153, and 154 and 155, the 1st, 2nd, 3rd,

and 4th corner seal is formed between the 1st panel and the 2nd panel, and bottom Gasset 8 is located among them. The bottom of desirable shape as shown in drawing 2 or drawing 5 also in the time of expansion can be provided because there are these 1st, 2nd, 3rd, and 4th corner seals.

[0049]

Next, it is folded up between the slanting bonded parts 170 and 171 and the slanting bonded parts 172 and 173, and the portion which piled up and was put together is referred to. These four bonded parts lie one upon another, and become two diagonal corner seals. These diagonal corner seals have during popping a role which misses steam pressure for aeration.

[0050]

Next, the fin seal 199 of drawing 4 and drawing 7 is referred to. This is formed by piling up the bonded part 166 of the bonded part 165 of the end edge 107, (it being drawing 6), and the edge 106. It has, respectively as shown in drawing 6 in these two seal fields, the pockets 190 and 191, i.e., the exhaust air holes, which have not pasted up a center. The "pocket" part which has not been pasted up in the field 190,191 with the fin seal 199 is formed. A pocket forms an exhaust air hole by the heat and steam pressure which the fields 192 and 193 become thin because there is this pocket, and are generated during popping as a result (refer to the exhaust air hole 68 of drawing 4).

[0051]

next, . which refers to the bonded parts 180 and 181 -- these are folded up, are piled up, are put together, and are pasted up with heat. As a result, a tuck seal is formed between Gasset's 16 field 118, and the panel 119. It plays the role which prevents popcorn not meaning and moving by this in this portion of the package by which under popping and before popping were folded up.

[0052]

Next, the line seals 183 and 184 are referred to. In the state before being folded up, mutually, in parallel, the line seals 183 and 184 are arranged right-angled to the end edge 106 and 107, and are arranged right-angled to the portion which moreover serves as a bottom end at the time of folding up in accordance with the folding lines 130 and 151.

[0053]

microwave interaction structure is prolonged until the upper, and the line seals 183 and 184 set the interval of about 3.5 to 4 inches, and are arranged (for example, position for holding a popcorn charge thing among the folding lines 58 and 59).

[0054]

When folding up, in this field, other portions of the line seal are piled up, and are put together, the panel 119 and the panel 116 paste up in this position, and a pocket is formed in the meantime. Popcorn before popping is carried out to the pocket formed among the line seals 183 and 184 in this portion is stored. With these line seals 183 and 184, before popping under popping hold the position of the center where a popcorn charge thing is desirable. It makes it possible to form and fold up these line seals on the rotating wheel the package of carries out continuation operation.

[0055]

The line seals 183 and 184 are prolonged to fields other than 118 with Gasset 117. In these fields, adjacent panels are pasted up, and structure is simplified and a popcorn charge thing is held in a desirable position.

[0056]

The seal in the field formed of the bonded parts 171, 173, 193, 183, 184, 170, 172, 192, 180, and 181 is relatively thin, and it is located immediately near the field which remarkable heat and steam generate during popping. With the heat and steam which occurred during popping, a seal separates and an opening is carried out a little. On the other hand, the bonded part 131, 132; 133, 134; 152, 153; 154, and the corner seal formed of 155 are distant from the place where heat and steam occur.

Under popping maintains an adhesion state and provides desirable shape in the whole package.

This is applied also about the bonded parts 160 and 161 and the adhesion state by 162 and 163 so that the portion piled up in the fields 135 and 137 of the both sides of the blank 100 may be so.

[0057]

A bonded part given in an application concerned, for example, the shape of what has the structure acquired with a corner seal, is obtained by the discontinuous bonded part.

[0058]

For example, the same function is achieved even when the bonded part 134 is discontinuous (for example, sequence of a point). A good heating seal may be formed from the adhesives pattern which does not need two fields partly piled up depending on adhesives.

[0059]

The specific suitable construction drawing 8 is referred to. A suitable structure about the blank 100 illustrated by drawing 6 is shown in drawing 8. This section puts in and indicates a size about a specific structure.

Although various arrangements with a natural thing are realized, the principle concerning an invention given in an application concerned is the same.

[0060]

A table is published below. The list of [in front] is a reference number of drawing 8. A reference number corresponds with each suitable size. If a reference number is followed, the typical or desirable size in this section is indicated.

[0061]

[Table 1]

参照番号	好適な寸法
201	21.0 in.(約 53.3 cm)
202	18 1/2 in.(約 47.0cm)
203	2 1/2 in.(約 6.4cm)
204	13.0 in.(約 33.0cm)
205	8.0 in.(約 20.3cm)
206	15 1/2 in.(約 39.4cm)
207	5 1/2 in.(約 14.0cm)
208	10 1/2 in.(約 26.7cm)
209	6.0 in.(約 12.7cm)
210	8.0 in.(約 20.3cm)
211	2 1/2 in.(約 6.4cm)
212	1/2 in.(約 1.3cm)
213	3 1/2 in.(約 8.9cm)
214	6 1/8 in.(約 15.6cm)
215	9 5/8 in.(約 24.4cm)
216	13 1/4 in.(約 33.7cm)
217	7 3/4 in.(約 19.7cm)
218	20 1/2 in.(約 52.1cm)
219	14.0 in.(約 35.6cm)
220	12.0 in.(約 30.5cm)
221	9.0 in.(約 22.9cm)
222	8.0 in.(約 20.3cm)
223	6.0 in.(約 15.2cm)
224	4.0 in.(約 10.2cm)
225	3.0 in.(約 7.6cm)
226	2.0 in.(約 5.1cm)
227	5.0 in.(約 12.7cm)
228	6.0 in.(約 15.2cm)
229	6 1/4 in.(約 13.3cm)
230	3/4 in.(約 1.9cm)
231	3/8 in.(約 1.0cm)
232	3/8 in.(約 1.0cm)
233	3/8 in.(約 1.0cm)
234	1/4 in.(約 0.6cm)
235	1/4 in.(約 0.6cm)
236	1/2 in.(約 1.3cm)
237	3/4 in.(約 1.9cm)
238	20°
239	340°
240	96°
241	42°

[0062]

A suitable structure consists of material mentioned above, and has a size shown in an upper table about drawing 8. The popcorn before about 72 g (or 80 g) popping is stored in the popcorn charge thing in such an embodiment. All the things that have popcorn required for the products, such as oil/fat, spices, and other seasonings, are mixed. A popcorn charge thing is mentioned above in an application concerned, and as illustrated to drawing 7, it is located in the center. According to such a structure, in completion, it becomes a capacity of about 3200 to 3500 cubic centimeters (typically about 3400 cc). The upright bag after expansion is about 8 inches to length. [It has about 5-inch opening the distance between the side ends 20 and 21 of drawing 1, and horizontally at the upper part. As a structure, the ratio (drawing 1 description) of width to height has [within the limits of 1:1 to 2:1] 1.25 to 1.75:1, and typically common shape which is 1.5:1

desirably (though it is not in agreement with the specific size mentioned above). Width is 8 to 16 inches (they are [in / most preferably / drawing 8] 10 to 14 inches, and the size 220), and is about 8 inches (in drawing 8, it is the size 210) most preferably 10 inches from the height 6.

[Brief Description of the Drawings]

[Drawing 1]

It is a figure showing the appearance of structure with an example of this invention, and is a figure showing that the bag is perpendicularly held after the popcorn by which popping was carried out into the bag has entered.

[Drawing 2]

It is a bottom view of the structure shown in drawing 1.

[Drawing 3]

It is a figure showing the appearance of the structure concerning this invention where has the popcorn charge thing before carrying out popping, and suitable microwave is hit by a user's suitable operation, and which changes into the form shown in drawing 1 or drawing 2.

[Drawing 4]

It is a figure showing the state after hitting microwave to drawing 3.

[Drawing 5]

It is in the same state as drawing 4, and is a figure showing the place seen from another angle.

[Drawing 6]

By being folded up, it is a top view of the flexible sheet which forms bag structure as shown in drawing 5 from drawing 1, and is a figure showing desirable arrangement of the selected seal material.

[Drawing 7]

It is an outline sectional view in seven to 7 portion of drawing 3.

[Drawing 8]

Although it is the same as that of drawing 6, it is the figure which indicated the boundary dimension.

[Drawing 9]

In order to package-ize structure shown in drawing 8 and to keep it from drawing 1, it is a figure showing being folded up right-angled.

[Drawing 10]

It is a schematic diagram showing the example of other embodiments.

[Translation done.]